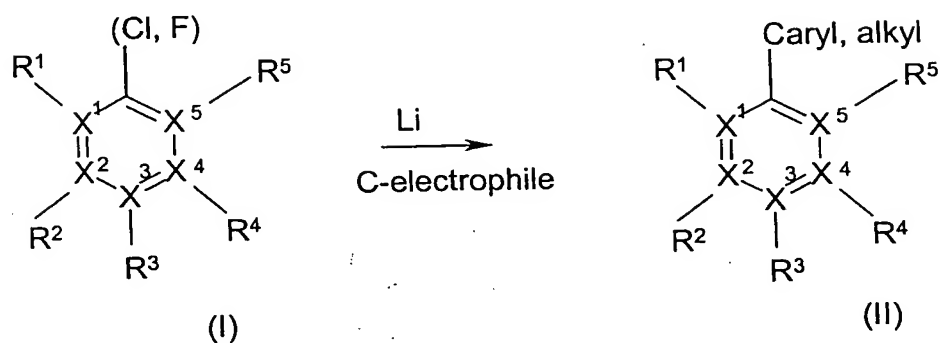


What is claimed is:

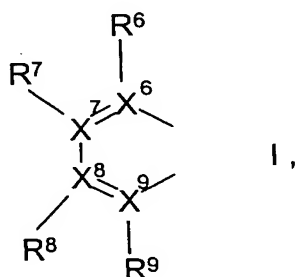
1. A process for preparing compounds of the formula (II),



where the substituents  $R^1$  to  $R^5$  are each independently H,  $\text{CH}_3$ , straight-chain or branched  $\text{C}_1$ - $\text{C}_8$ -alkyl,  $\text{CH}(\text{OC}_1\text{-C}_5\text{-alkyl})_2$ ,  $\text{CH}(\text{C}_1\text{-C}_5\text{-alkyl})(\text{OC}_1\text{-C}_5\text{-alkyl})$ ,  $\text{CH}_2(\text{OC}_1\text{-C}_5\text{-alkyl})$ ,  $\text{CH}(\text{CH}_3)(\text{OC}_1\text{-C}_5\text{-alkyl})$ ,  $\text{C}_1$ - $\text{C}_8$ -alkoxy,  $\text{N}(\text{C}_1\text{-C}_5\text{-alkyl})_2$ , phenyl, substituted phenyl, aryl, heteroaryl,  $\text{S}(\text{C}_1\text{-C}_5\text{-alkyl})$  or a radical  $\text{C}_{\text{aryl}}$ , alkyl, and

the symbols  $X^1$  to  $X^5$  are each carbon or a maximum of two neighboring  $X^{1-5}$  are nitrogen or  $X^1R^1$  and  $X^2R^2$  together are O, NH,  $\text{N}(\text{C}_1\text{-C}_5\text{-alkyl})$ ,  $\text{N}(\text{C}=\text{O}-\text{C}_1\text{-C}_5\text{-alkyl})$ ,  $\text{N}(\text{SiR}_3)_2$  or S,

or where neighboring radicals  $R^1$  to  $R^5$  form the following structural unit,



where  $X^6$  to  $X^9$  and  $R^6$  to  $R^9$  have the same meaning as  $X^1$  to  $X^5$  and  $R^1$  to  $R^5$

and

the radical  $C_{aryl, alkyl}$  is straight-chain or branched, substituted or unsubstituted  $C_1$ - $C_8$ -alkyl, 1-hydroxyalkyl having from 1 to 8 carbon atoms, CN, 2-hydroxyalkyl having from 2 to 5 carbon atoms, 3-hydroxyalkyl having from 3 to 5 carbon atoms, 1-NHR-alkyl having from 1 to 5 carbon atoms,  $CH(OC_1-C_5-alkyl)_2$ ,  $C(C_1-C_5-alkyl)(OC_1-C_5-alkyl)$ ,  $CH_2(OC_1-C_5-alkyl)$ ,  $CH(CH_3)(OC_1-C_5-alkyl)$ ,  $C_1$ - $C_5$ -alkoxy,  $N(C_1-C_5-alkyl)_2$ , phenyl, substituted phenyl, aryl, heteroaryl,  $CO_2H$ ,  $CO_2alkyl$ ,  $(C=O)_{0.5}$ , substituted 1-vinylalkyls,  $CH_3-C(=O)$ ,  $R-C(=O)$  or  $CHO$ , which comprises reacting chloro- or fluoroaromatics of the formula (I) with carbon electrophiles and lithium metal.

2. The process as claimed in claim 1, wherein the carbon electrophile is selected from the group consisting of:
  - aryl or alkyl cyanates ( $C_{aryl, alkyl} = CN$ )
  - oxirane, substituted oxiranes ( $C_{aryl, alkyl} = CH_2CH_2OH$ , substituted  $CR_2CR_2OH$ )
  - azomethines ( $C_{aryl, alkyl} = CR^1_2-NR'H$ )
  - nitroenolates ( $C_{aryl, alkyl} = oximes$ )
  - immonium salts ( $C_{aryl, alkyl} = amines$ )
  - haloaromatics, aryl triflates, other arylsulfonates ( $C_{aryl, alkyl} = aryl, heteroaryl$ )
  - carbon dioxide ( $C_{aryl, alkyl} = COOH$ )
  - carbon monoxide ( $C_{aryl, alkyl} = (-CO-)_{0.5}$ )
  - aldehydes, ketones ( $C_{aryl, alkyl} = CHR^1-OH$ ,  $CR^1_2-OH$ )
  - $\alpha, \beta$ -unsaturated aldehydes/ketones ( $C_{aryl, alkyl} = CH(OH)-vinyl$ ,  $CR^1(OH)-vinyl$ )
  - ketenes ( $C_{aryl, alkyl} = C(=O)CH_3$  in ketene,  $C(=O)-R$  in substituted ketenes)
  - alkali metal and alkaline earth metal salts of carboxylic acids ( $C_{aryl, alkyl} = CHO$  in formates,  $COCH_3$  in acetates,  $R^1CO$  in  $R^1COOMet$ )
  - aliphatic nitriles ( $C_{aryl, alkyl} = COCH_3$  in acetonitrile,  $R^1CO$  in  $R^1CN$ )
  - aromatic nitriles ( $C_{aryl, alkyl} = COAr'$ )
  - amides ( $C_{aryl, alkyl} = CHO$  in  $HCONR^1_2$ ,  $C(=O)R^1$  in  $R^1CONR'^2$ )

esters ( $C_{aryl,alkyl} = [C(OH)R^1]_{0.5}$ ) or alkylating agents ( $C_{aryl,alkyl} = alkyl$ ).

3. The process as claimed in claim 1, wherein the reaction is performed at a temperature in the range from  $-100$  to  $+80^{\circ}\text{C}$ .
4. The process as claimed in claim 1, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.
5. The process as claimed in claim 1, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, preferably triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole and diisopropyl ether, more preferably toluene, THF or diisopropyl ether.
6. The process as claimed in claim 1, wherein the process is performed as a one-pot process.
7. The process as claimed in claim 1, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
8. The process as claimed in claim 1, where the straight-chain or branched  $C_1$ - $C_8$ -alkyl is a  $C_1$ - $C_Y$ -alkyl and the  $C_1$ - $C_8$ -alkoxy is a  $C_1$ - $C_Y$ -alkoxy.
9. The process as claimed in claim 2, wherein the reaction is performed at a temperature in the range from  $-100$  to  $+80^{\circ}\text{C}$ .

10. The process as claimed in claim 2, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.
11. The process as claimed in claim 2, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, preferably triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole and diisopropyl ether, more preferably toluene, THF or diisopropyl ether.
12. The process as claimed in claim 2, wherein the process is performed as a one-pot process.
13. The process as claimed in claim 2, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
14. The process as claimed in claim 3, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.
15. The process as claimed in claim 3, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, preferably triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole and diisopropyl ether, more preferably toluene, THF or diisopropyl ether.
16. The process as claimed in claim 3, wherein the process is performed as a one-pot process.

17. The process as claimed in claim 3, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
18. The process as claimed in claim 4, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, preferably triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole and diisopropyl ether, more preferably toluene, THF or diisopropyl ether.
19. The process as claimed in claim 4, wherein the process is performed as a one-pot process.
20. The process as claimed in claim 4, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.